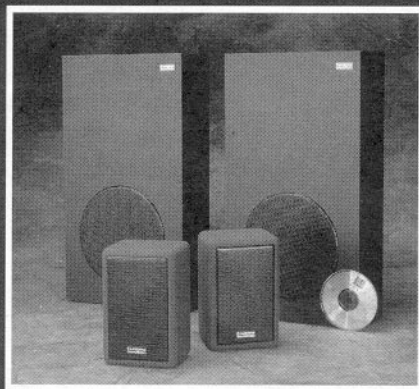


*Ensemble<sup>®</sup> Speaker System*  
*by Henry Kloss*  
*Installation and Operating Instructions*





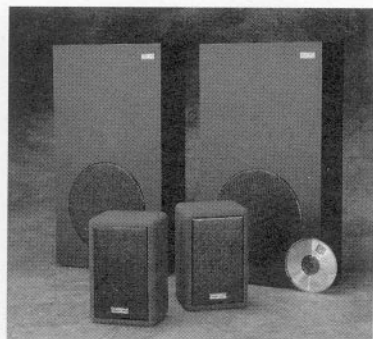
---

# *Ensemble* Speaker System by Henry Kloss

## Contents

|   |    |
|---|----|
| Important—Please Read First .....         | 1  |
| Unpacking The System .....                | 2  |
| <i>Part One: Installation</i>             |    |
| Speaker Placement .....                   | 4  |
| Hookup Alternatives .....                 | 6  |
| Preparing Speaker Wires .....             | 8  |
| Making Connections .....                  | 9  |
| <i>Part Two: Operation</i>                |    |
| The Frequency Balance Switches .....      | 12 |
| Optimizing The Sound Of Your System ..... | 13 |
| About Amplifier Power .....               | 15 |
| Finalizing Your Installation .....        | 16 |
| Cleaning The Cabinets .....               | 16 |
| Difficulty? .....                         | 17 |
| 7-Year Limited Warranty .....             | 17 |

---



## Important – Please Read First

**T**hank you for choosing the *Ensemble* system. Like all speaker systems, its sound is very much influenced by its placement in the listening room. Unlike conventional systems, however, it consists of four compact units that can be placed where they sound best without intruding on your living space. There is no need to sacrifice sound quality to decor, or vice-versa.

If you place the *Ensemble* system in your listening room casually, it will sound at least as good as conventional speakers. However, to achieve even better sound, we urge you to

experiment with placement at some length, a process aided by the instructions that follow.

If you have any questions or problems, please consult the store where you purchased the system, or call a Cambridge SoundWorks Audio Expert toll-free.

Tom DeVesto

President, CEO

Henry E. Kline

Chairman

**Cambridge SoundWorks**

**1-800-FOR-HIFI**

(1-800-367-4434)

8 AM to Midnight,

Eastern time

In Canada: 1-800-525-

Outside US or Canada

Tel: 617-332-5936

Fax: 617-332-9229



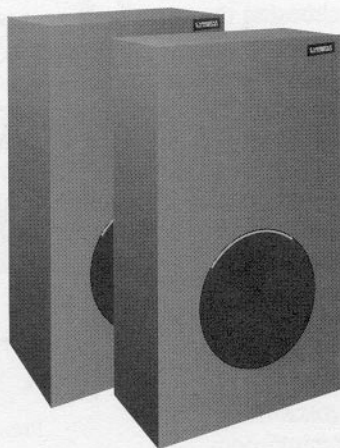
---

# Unpacking The System

As you unpack your *Ensemble* system, please examine each speaker unit carefully for signs of shipping damage. If there is any damage, *do not discard the shipping carton, and do not install or use the system*. Consult the store where you purchased the system or call Cambridge SoundWorks at 1-800-FOR-HIFI for assistance. It's a good idea to save the shipping carton and its inserts in case you have to ship your system.

All the items shown to the right should be included; inform your store or Cambridge SoundWorks if anything is missing

Subwoofers (2)



Satellites (2)



Small feet (16)

# Part One: Installation

# Speaker Placement

Using the guidelines that follow, first decide where to place the *Ensembles's* speaker units in your listening room and which of several hookup alternatives is best. Then prepare speaker wires and make the connections. Once the system is working, listen extensively and experiment further with placement *before* making the installation permanent.

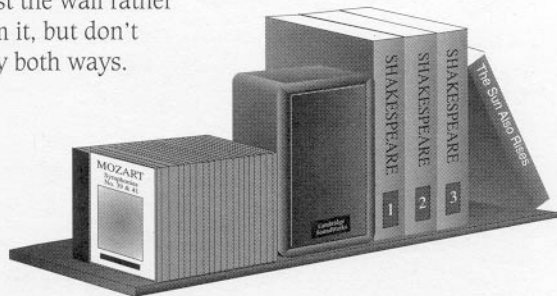
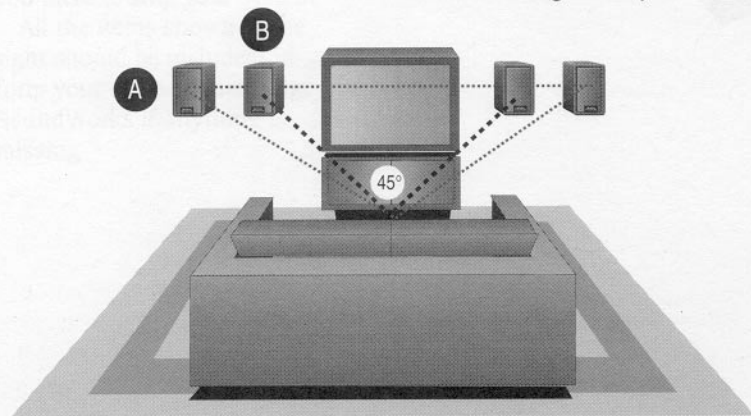
## The satellites

- For music listening, place the satellites to form an equal-sided triangle with your favorite listening position (**A**, below). Because the room's surfaces tend to integrate the sound before it reaches you, perfectly symmetrical placement is not necessary.
- In a home theater installation, place the satellites so that they form a 45° angle with your

preferred seat (**B**), which is how movie soundtracks are mixed. The subwoofers and satellites are not magnetically shielded, and must be at least 18 inches from the TV to prevent picture distortion (shielded satellites are available, but do not have the frequency balance switches of the standard units).

- Have a clear line of sight to the satellites, so that higher frequencies are not blocked.
- The satellites can be placed either vertically or horizontally. They often sound better when placed against the wall rather than out from it, but don't hesitate to try both ways.

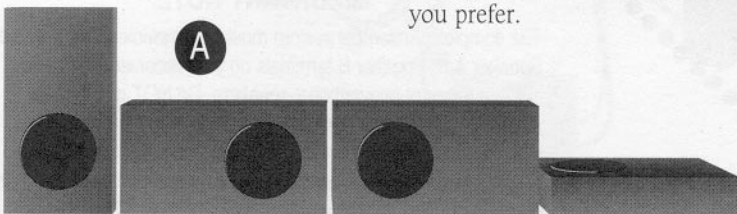
- If the satellites are across the room from the listening area, their height is usually not critical; they can go down on the floor, up near the ceiling, or most anywhere in between. If they are close to the listening area, however, it is best to have them at or near ear level.
- If you put the satellites in bookshelves or a wall system, place them with their front surfaces flush with the front of the shelves; you can then surround them with books, CDs, tapes, etc., as shown below.



- Take advantage of the satellites' small size and consider locations where regular speakers wouldn't fit, such as window sills or a mantelpiece.
- The satellites can also be wall mounted as described on page 16. Don't mount them permanently right away, however; put them on small tables, chairs, or even stacks of books so you can evaluate how they sound first.

## The subwoofers

- Because the ear cannot localize low-bass, the *Ensembles's* subwoofers do not contribute



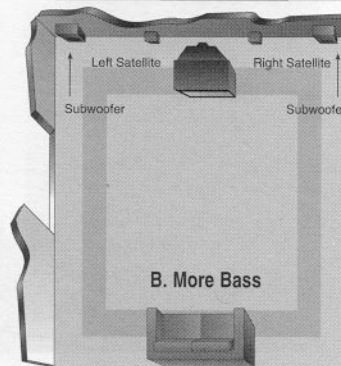
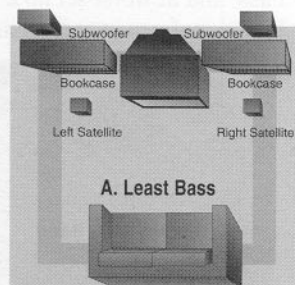
significantly to the stereo effect. Therefore they need not be particularly close to the satellites, and can be hidden under or behind furniture. Low-bass will appear to emanate from the satellites.

- To start with, simply place the subwoofers on the floor against the wall nearest the satellites. After some preliminary listening you can experiment further using the guidelines which follow.
- The Subwoofers can be placed in any manner as pictured in figure A. Their round grilles, however, must be at least one inch from any facing surface. Use the small feet provided if you prefer.

- The relative strength of low-bass depends on how close the subwoofers are to intersecting room surfaces as shown in the illustrations that begin to the right. The most bass—possibly *too* much in some cases—results with corner placement on the floor. The least bass results with the units out in the room away from corners and walls.

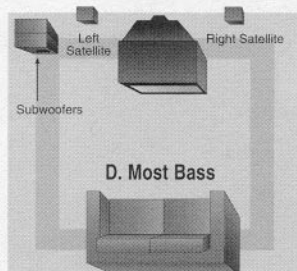
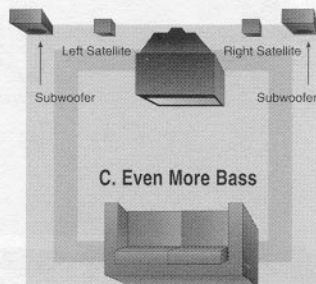
- If the subwoofers are side-by-side, stacked, or back-to-back, acoustic coupling between them increases the system's total bass output. Such placement can result in too much bass, however, particularly if the units are also near intersecting room surfaces (as described above).
- While we usually don't recommend placing subwoofers behind the listening area, try it if you're tight for space.

- Don't place the subwoofers on the same shelf system as a turntable. Strong bass notes from the speakers could be picked up by the turntable, fed



# Hookup Alternatives

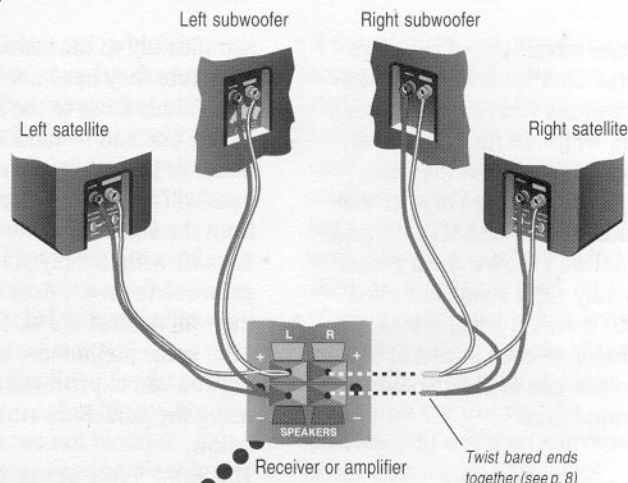
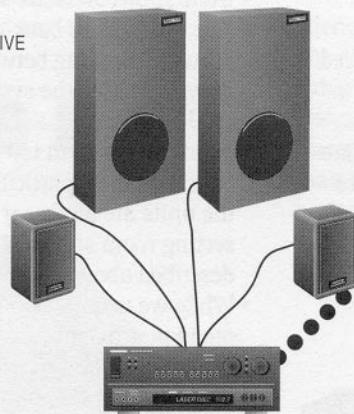
back out the speakers again, picked up by the turntable yet again, and so on. This condition, known as acoustic feedback, will at least muddy the bass, and at worst set up a loud, low-frequency rumbling.



Choose one of the three configurations illustrated for connecting the *Ensemble* system to your receiver or amplifier. While the wiring configurations provide identical performance, running wires independently to each speaker unit (1, below) makes it much easier to experiment with speaker placement. You can change to one of the other configurations later if you wish.

ALTERNATIVE

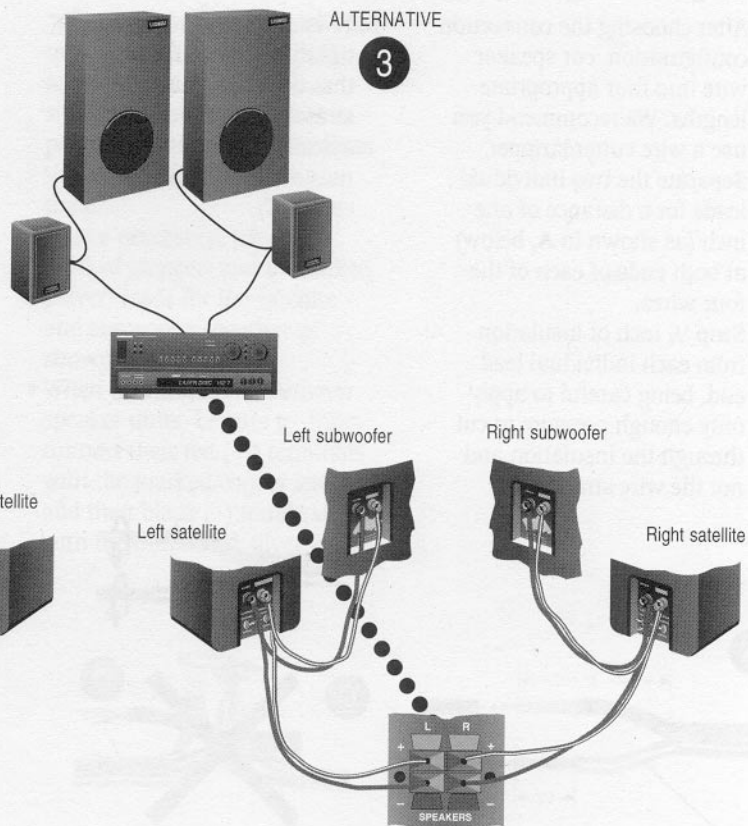
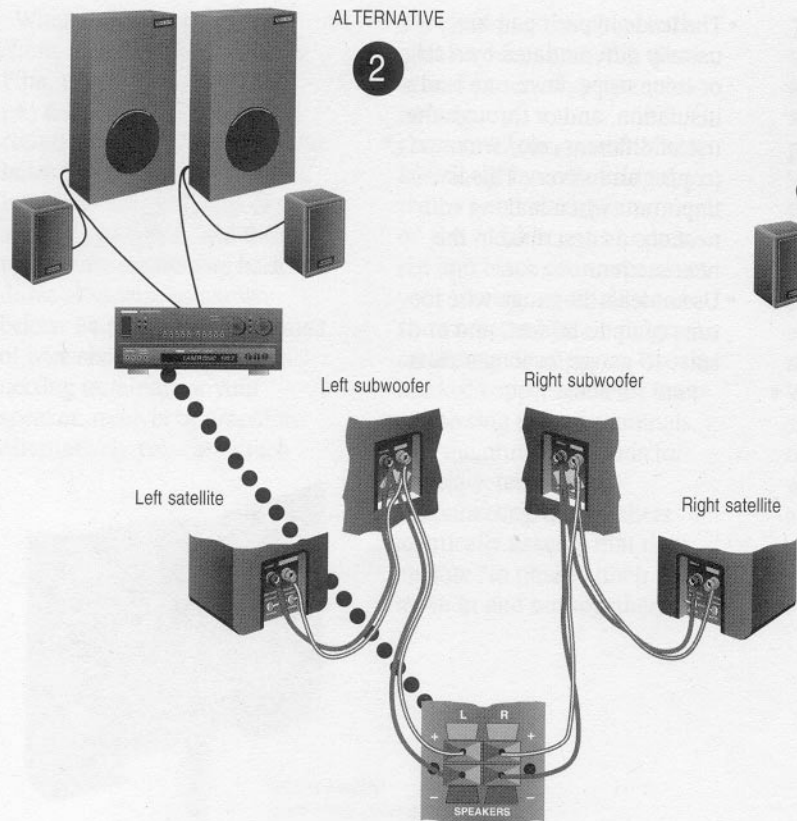
1



## IMPORTANT NOTE

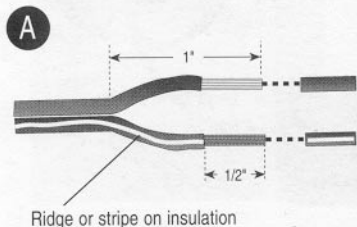
The complete *Ensemble* system must be connected ONLY to the Speaker A or Speaker B terminals on your receiver or amplifier, just like a pair of conventional speakers. Do NOT connect the satellites to one set of terminals and the subwoofer to the other. With many receivers, this would connect the satellites and bass speaker in series, which would do no damage, but could seriously degrade the *Ensemble's* performance.



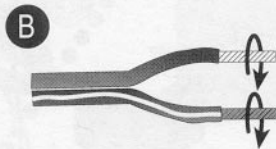


# Preparing Speaker Wires

1. After choosing the connection configuration, cut speaker wire into four appropriate lengths. We recommend you use a wire cutter/stripper.
2. Separate the two individual leads for a distance of one inch (as shown in **A**, below) at both ends of each of the four wires.
3. Strip  $\frac{1}{2}$  inch of insulation from each individual lead end, being careful to apply only enough pressure to cut through the insulation and not the wire strands.



4. Twist the bared wire strands tightly together (**B**). Be sure that there are no loose strands that could short across the connecting terminals on the speakers or receiver (**C**).

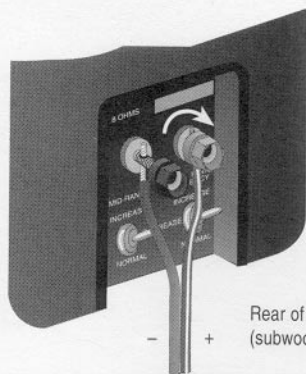


- The leads in each pair are usually differentiated by a ridge or color stripe down one lead's insulation, and/or through the use of different color wire (copper and silver). This is important when making connections as described in the next section.
- Use at least 18-gauge wire for runs of up to 50 feet, and at least 16-gauge for longer runs.

# Making Connections

When connecting your system, follow these guidelines:

- First, turn the speakers' red (+) and black (-) connectors counterclockwise to expose the holes in their threaded shafts. Insert the stripped ends of the wires in the holes, and thumb tighten the connectors back down clockwise as shown below. Be sure no stray strands of wire short across the connecting terminals or your speaker, receiver or amplifier. Alternatively you can attach



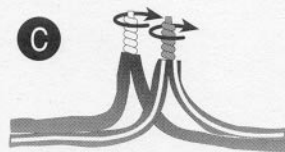
standard banana plugs to the speaker wires and plug them into the ends of speaker connectors.

- *Connect all the speaker units identically* by connecting the red (+) and black (-) terminals on the speaker units to their red and black counterparts on your receiver or amplifier as shown in the system diagrams on the previous pages. Use the marked/copper leads for interconnecting the red terminals, and the unmarked leads for the black terminals.

Connecting the speakers identically assures that they operate "in phase" (their cones move in and out together).

"Out of phase" connections can muddy the stereo effect, and sounds like solo voices that should appear to come from a point between the two satellites will sound "split" between them.

- Where necessary, twist the marked (copper) and unmarked (silver) leads for the satellite and subwoofer together as shown in **C**, below.
- When running cables *between* speaker units, be sure to interconnect their red (+) terminals with the marked/copper leads and their black (-) terminals with the unmarked/silver leads.



Part Two  
Operation



## Part Two: Operation



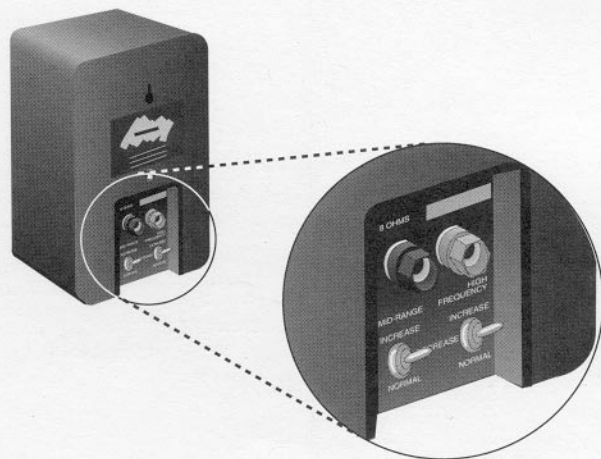
# The Frequency Balance Switches

On the rear of each satellite you will find unique **Mid-range** and **High-frequency** switches that let you match your *Ensemble* system more precisely to your program material, room acoustics, and/or speaker placement. The effect of the switches is subtle; their operating range is deliberately limited, enabling useful fine-tuning without adversely affecting the overall balance for which *Ensemble* systems are widely respected. Even the most carefully balanced design can do with the occasional tweak under unusual acoustic situations, or on program material that was miked too closely.

- The **Mid-range** switch selects between Normal output in the 600-1200 Hz octave, and 2

dB more (Increase). **Normal** provides less output in this critical octave than typical "boxy"-sounding speakers, for a particularly open sound on large-scale symphonic and choral works. For smaller-scale music, including solo voice, switching to **Increase** provides a warmer, more intimate sound that some listeners might prefer.

- The **High-frequency** switch provides three positions: **Normal**, and 2 dB less (**Decrease**) or 2 dB more (**Increase**) output above approximately 3 kHz. Rather than affecting tonal balance as does the mid-range control, the high-frequency switch can subtly increase the system's "airiness," or, on the other hand, soften any "edginess."



# Optimizing The Sound Of Your System

It is almost impossible to find an acoustically ideal placement for a conventional speaker in the listening room. This is because room acoustics affect the low-bass frequencies differently from the rest of the range. If you place the speaker so the room helps the bass, it is likely to hinder the upper ranges (and vice versa). Thus placing conventional speakers almost inevitably entails a compromise, even before proper stereo effect, decor, and convenience are taken into account.

The usual restrictions don't apply to the *Ensemble* system because it separates the low-bass out from the rest of the range. This means that you can place the subwoofer and the satellites differently to take advantage of the room in *both* the lower and upper ranges. Yet the units are so compact that even when placed optimally,

they have little or no visual impact on your living space.

We urge you to take full advantage of the *Ensemble* system by trying the speaker units in different locations within your listening room. Of course, if the system sounds satisfactory from the moment you connect it and first turn it on, you may wish to go no further. But if you have any doubts or simply wish to see if an improvement can be made, we suggest you experiment with placement using the following guidelines:

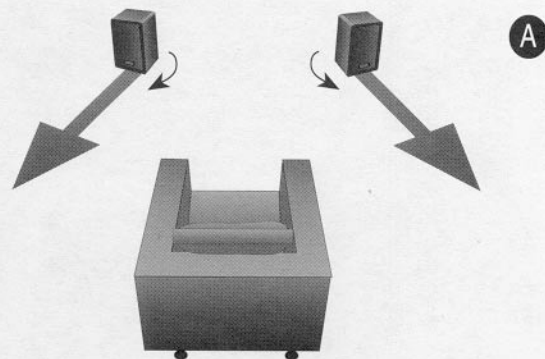
- Let your ears be your guide, and trust them. When the *Ensemble* system sounds right to you, you've found the best placement.
- A relatively small change in placement can have a relatively large effect on the sound. For example, low-bass increases as you move the subwoofer closer to the inter-

secting room surfaces. The sound is apparently brighter with the satellites close to the listening area than with them across the room. And the apparent fullness of the sound, a function of mid-bass rather than low-bass, is greater with the satellites against a wall than with them out in the room.

This is not to imply that "more is better," whether it be

bass, brightness, or fullness. The point is that a *change* can be easily effected simply by moving one or more of the speaker units. And with the *Ensemble* system, that is easy to do.

- Program material varies *greatly*, so be sure to listen to a variety of recordings to prevent being misled by the particular characteristics of a particular recording.

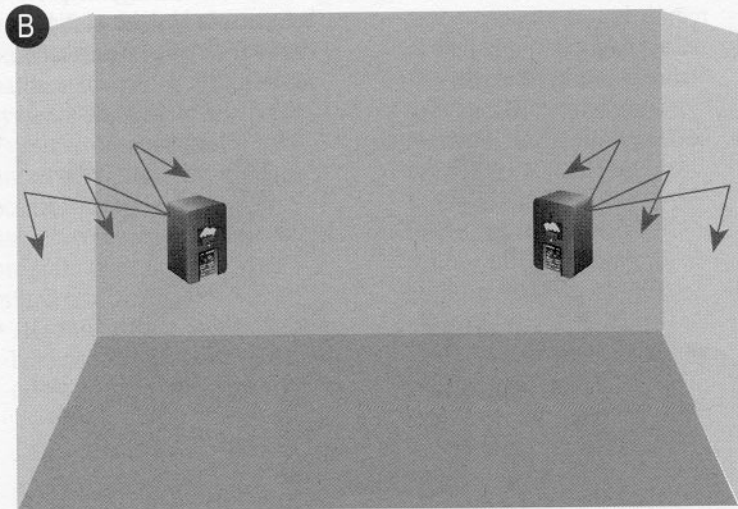




- If it is necessary to place the satellites close to the listening area and you find the sound too bright, try placing the units at an angle so that listeners aren't directly on their axis (**A**, previous page). In a small room, you might even try aiming the satellites away

from the listeners altogether into the corners of the room, to scatter the highs for a more spacious sound (**B**, below).

- The subjective "fullness" of the sound is not so much a function of the low-bass as it is of the mid-bass. Similarly, the subjective "openness" of the



sound is not so much a function of the high treble as it is of the *lower mid-range*. Both of these critical ranges are reproduced by the satellite units, and so are affected by their placement.

Mid-bass and mid-range balance is usually best with the satellites against a wall. If they are out from the wall and sound too thin, particularly on vocal recordings, try moving them back against the wall. If that's inconvenient, or they still don't sound right, set their mid-range switches to Increase. If they are against the wall and sound too heavy or boomy, particularly on male voices, set the mid-range switches to Normal, and if necessary, move them out *from the wall*. Conversely, if they are against the wall and sound too heavy or boomy,

particularly on male voices, move them out from the wall.

- The subwoofers reproduce only the *lowest* bass, such as bass drum, organ pedals, and the lowest notes of string basses and synthesizers. The strength of these sounds, some of which are more felt than heard, is markedly affected by the position of the subwoofers. Refer to the illustrations on pages 5 and 6 for guidance if the low bass is either too strong or not strong enough. Also, not all recordings have truly low bass on them, so be sure to make judgments on recordings which do.
- If you're not happy with what you hear and are having trouble improving it, check with your store, or call a Cambridge SoundWorks Audio Expert at 1-800 FOR-HIFI toll-free.

# About Amplifier Power

The power needed to drive the *Ensemble* system satisfactorily varies significantly with such factors as the size of the listening room, its acoustics and furnishings, the type of music you listen to, and how loud you like to play it. When surveying a representative variety of listeners and circumstances, we encountered needs ranging from as little as 25 to well over 100 watts per channel.

The *Ensemble* system can be used safely to play music with the most powerful amplifiers and receivers designed for home listening. However, use common sense to prevent strong non-musical transients; keep the volume down when connecting or disconnecting components, raising or lowering your turntable's tonearm, and so on.

This will help protect your ears as well as the speaker units.

If at a given volume level the sound is consistently "grainy" or "gritty", and/or there is clearly noticeable distortion on deep bass, you may be overdriving your amplifier or receiver. Back off on the volume control until the symptoms disappear. If that is not loud enough for you, you may need a more powerful amplifier or receiver for satisfactory results.

If the problem is mostly in the low-bass, placing the *Ensembles's* subwoofers together as described on page 5 may help; the acoustic coupling that results may increase bass efficiency enough to forestall the need for a more powerful amplifier or receiver. If you find that your amplifier or receiver is inadequate, however,

contact your store or call a Cambridge SoundWorks Audio Expert, who will advise you on how much power would be appropriate for your particular circumstances.

---

## Finalizing Your Installation

- The small dome-shaped feet are for the satellites. If you ever need to remove a foot, gently slide the edge of a knife under one edge and slowly *peel* it off. If you try to “pop” it off, you may damage the cabinet’s finish.
- The satellites may be hung directly on a wall. Simply screw No. 10 screws into the wall so that their heads protrude about  $\frac{3}{8}$  inch to fit into the keyhole slots on the back of each satellite.
- Plastic anchors may be needed to secure the screws in particularly hard or soft material. If so, drill  $\frac{1}{4}$  inch holes in the wall, and tap the anchors into the holes until they are flush with the wall. Then screw the screws into the anchors until they protrude  $\frac{3}{8}$  inch from the wall.
- The threaded fitting on the back of the satellites is a standard camera-tripod fitting for attaching them to speaker stands or Omnimount swivel mounts available from Cambridge SoundWorks.

## Cleaning The Cabinets

The satellites can be cleaned with a window cleaning product. Use a soft, *lint-free* cloth only. Avoid spraying the cleaner directly on the speaker grilles to prevent damage to the speaker drivers. Also, avoid getting cleaner on the serial number plate on the rear of each speaker as it may remove the numbers.

Clean the subwoofer with a damp cloth. Do not use polish.



## 7-Year Limited Warranty

To the original purchaser, Cambridge SoundWorks, Inc. will warrant the *Ensemble* speaker system to be free from defects in material and workmanship for a period of seven (7) years from date of purchase. With respect to defects, Cambridge SoundWorks will, at its option, replace the product or repair the defect in the product with no charge to the original purchaser for parts or labor.

This warranty does not extend to any defect, malfunction or failure caused by misuse, abuse, accident, faulty hookup, defective associated equipment or use of the speaker with equipment for which it is not intended.

This warranty is valid only when the speaker is returned to an authorized store where it was purchased. Or, if you bought directly from Cambridge SoundWorks, call for a Return Authorization Number for the unit and return it to the address below, freight prepaid, together with a copy of the original sales slip to establish warranty status. Please do not return the *Ensemble*, or any of its parts, to the factory without prior authorization.

This is the sole and express warranty. This warranty is in lieu of all other warranties, expressed or implied, of merchantability, fitness for purpose or otherwise. In no event shall Cambridge SoundWorks be liable

for incidental or consequential damages or have any liability with respect to defects other than the obligations set forth above.

To ensure warranty coverage it is incumbent upon the original purchaser to inform Cambridge SoundWorks or any of its authorized service agencies of the defect within the warranty period. The only acceptable method of establishing warranty status is a copy of the original proof of purchase indicating customers name and purchase date.

For warranty information contact:

Cambridge SoundWorks, Inc.  
311 Needham St.  
Newton, MA 02164  
1-800-FOR-HIFI

## Difficulty?

If you suspect there's a problem with your *Ensemble* system, contact the store where you purchased it, or call a Cambridge SoundWorks Audio Expert who will help you track the problem, which could be in some other component in your system. If together you agree that there is something wrong with your *Ensemble* system, you should return it to the store where you bought it. Or, if you bought directly from Cambridge SoundWorks, we will supply you with a Return Authorization Number for the unit. Please do not return the *Ensemble* system, or any of its parts, to the factory without prior authorization.

# CAMBRIDGE SOUNDWORKS®

311 Needham Street, Newton MA 02164  
1-800-367-4434 Fax: 617-332-9229

P81-0561 895 Rev. B